Appendix D

Attorney's Docket No.: <u>NEONODE.P004</u>   *PATENT*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of:)	
)	Examiner: Ryan F. Pitaro
Magnus Goertz)	
)	Art Unit: 2174
Application No: 10/315,250)	
)	
Filed: December 10, 2002)	
)	
For: USER INTERFACE FOR)	
MOBILE HANDHELD)	
COMPUTER UNIT)	
_____)	

Mail Stop AMENDMENT
Commissioner for Patents
P. O. Box 1450
Alexandria, VA   22313-1450

<u>AMENDMENT AND RESPONSE TO OFFICE ACTION</u>

<u>UNDER 37 C.F.R. §1.116</u>

Sir:

        In response to the Office Action dated July 11, 2008, applicant respectfully requests that the above-identified application be amended as follows:

IN THE DESCRIPTION:

Please amend the specification as follows.

Page 1, ninth full paragraph:

Since the users have gotten used to small handheld units, it is hard to move towards larger units. This has led to foldable keyboards, different kinds [[if]] of joy sticks and different kinds of touch sensitive displays and pads intended to help in providing a user interface that is suitable for small handheld ~~compute~~ computer units.

Page 2, first full paragraph:

It is a problem to provide a user-friendly interface that is adapted to handle a large amount of information and different kinds of traditional computer-related applications on a small handheld computer unit.

Page 3, sixth full paragraph:

In order to provide a task and file management in a user interface for a handheld mobile computer, the present invention teaches that, if the third function is activated, the display area is adapted to display a list with a library of available applications and files on the computer [[unit]] unit. A selection of an application will start the application, and a selection of a file will open the file in an application intended for the file.

Page 7, fifth full paragraph:

It should [[b]] be understood that all lists in the computer unit, such as a list of contact information in an address book, a

list of e-mail messages in a mailbox, or a telephone log, can be managed in the above described manner.

Page 7, sixth full paragraph:

The list 231 can be adapted to present only files or only applications. In this case, the top area of the list 231 can present a field 233 through which the content [[if]] of the list 231 can be altered. If the list only presents files, then the field 233 can display a representation of a task manager and a selection of the field 233 will cause the list 231 to alter to present only applications, and if the list 231 only presents applications, then the field 233 displays a representation of a file manager and a selection of the field 233 will cause the list 231 to alter and present only files.

Page 7, eighth full paragraph:

Figure 9 shows that if the number of applications and/or files in the list 231 exceeds the number of applications and/or files that can be presented on the display area 3, and if the object 4 is moved to the top or bottom position of the display area, then lifted, replaced on the display area, and then again moved to the top or bottom of the display area, then the content of the display area will be replaced one whole page, meaning that if the object 4 is positioned N at the bottom 3b of the display area 3, then lifted, replaced on the display area 3, and then again moved M to the bottom 3b of the display area 3, then the content 31 of the display area 3 will be replaced P by the following applications and/or files 32 in the list 231. In the same way, but not shown in the figure, if the object is ~~position~~ positioned at the top of the display area, then lifted, replaced on the display area 3, and then again moved to the top of the

display area, the content of the display area will be replaced by the preceding applications and/or files in the list.

Publication No. US 2004/0109013 A1, paragraph [0069]:

As shown in figure 13, the present invention relates to a user interface for a hand held mobile unit that preferably can be manageable with one hand. Hence the present invention teaches that the user interface is adapted to a touch sensitive area [[I]] 1 with a size that is in the order of 2-3 inches, meaning the diagonal distance W between two corners of the touch sensitive area 1.

IN THE CLAIMS:

    Please substitute the following claims for the pending claims with the same number:

1. (currently amended)   A computer readable medium storing a computer program with computer program code, which, when read by a mobile handheld computer unit, allows the computer to present a user interface for the mobile handheld computer unit, the user interface comprising:

    a touch sensitive area ~~that is simultaneously divided into a menu area and a display area, the mobile handheld computer unit being adapted to run several applications simultaneously, and to present an active application on top of any other application on said display area, characterised in, that:~~

    ~~said menu area simultaneously presents~~ in which representations of a ~~first function that is a general application dependent function, a second function that is a keyboard function, and a third function that is a task and file manager~~ plurality of functions are displayed, and

    each function of said ~~first, second, and third functions simultaneously represented in said menu area~~ plurality of functions being mapped to a corresponding location in the touch sensitive area at which the representation of the function is displayed, and being activated by ~~the single step of a blunt~~ an object touching the corresponding location and then gliding along the touch sensitive area away from the location ~~moving in a direction from a starting point that is the representation of the corresponding one of said first, second, and third functions in said menu area to said display area being detected by~~

~~said touch sensitive area, thereby allowing low precision navigation of the user interface using the blunt object, so that the user interface can be operated by one hand, where the blunt object is a finger~~.

2. (currently amended)   The computer readable medium of claim **1**, wherein <u>one function from the plurality of functions, when</u> ~~the mobile handheld computer unit runs an operating system, the user interface is characterised in, that, if said first function is~~ activated, <u>causes</u> the user interface ~~is adapted~~ to display icons representing different services or settings ~~depending on the current~~ <u>for a currently</u> active application~~, that one of said icons always represents a "help"-service, regardless of application, and that, if no application is current active on the mobile handheld computer unit, said icons are adapted to represent services or settings of the operating system of the mobile handheld computer unit~~.

3. (currently amended)   The computer readable medium of claim **2**, wherein the user interface is characterised in, that a selection of a preferred service or setting is done by tapping on a ~~corresponding~~ <u>display</u> icon <u>corresponding to the preferred service or setting</u>.

4. (currently amended)   The computer readable medium of claim **1**, wherein ~~the user interface is characterised in,~~

~~that, if said second~~ <u>one</u> function <u>from the plurality of functions, when</u> [[is]] activated, ~~said display area is adapted~~ <u>causes the user interface</u> to display a keyboard and a text field~~,~~

~~that, if a text passage in said active application is highlighted, said text passage is displayed in said text field for editing~~

~~through said keyboard and that said highlighted test passage is replaced~~
~~by said edited text passage when said second function is deactivated, and~~
~~that, if no text passage in said active application is~~
~~highlighted, said text field is available for inputting and editing of text~~
~~through said keyboard~~.

5. (currently amended)   The computer readable medium of claim **4**,
wherein ~~the user interface is characterised in, that if no text passage in~~
~~said active application is highlighted,~~ said text field is used for inputting
and editing of text through said keyboard~~, then~~

~~said first function can be activated, or~~

~~said second function can be closed, in which a choice~~
~~of saving or deleting said inputted text is given, where the choice of~~
~~saving said inputted text results in an activation of said first function,~~
~~in which said first function will present services or settings available for~~
~~said inputted text~~.

6. (currently amended)   The computer readable medium of claim **1**,
wherein ~~the user interface is characterised in, that, if said third~~ <u>one</u>
function <u>from the plurality of functions, when</u> [[is]] activated, ~~said display~~
~~area is adapted~~ <u>causes the user interface</u> to display a list with a library of
available applications and files on the mobile handheld computer unit~~,~~
~~that a selection of an application will start said application, and that a~~
~~selection of a file will open said file in an application intended for said file~~.

7. (currently amended)   The computer readable medium of claim **6**,
wherein the user interface is characterised in, that a selection of an
application or file is done by ~~moving~~ <u>gliding</u> the ~~blunt~~ object <u>along said</u>

touch sensitive area so that a representation of a desired one of said application or file is highlighted, ~~removing~~ raising said object from said touch sensitive area, and then tapping on said touch sensitive area~~, and that said desired one of said application or file is highlighted by placing some kind of marking on said representation of said application or file~~.

8. (currently amended)   The computer readable medium of claim **7**, wherein the user interface is characterised in, that at any given time said list ~~is adapted to present~~ presents only ~~said~~ files or only ~~said~~ applications, and that ~~a top~~ an area of said list presents a field through which ~~the content of~~ said list can be ~~altered~~ changed from presenting files to presenting applications, or from presenting applications to presenting files~~, that, if said list only presents files, said field displays a representation of a task manager and a selection of said field will cause said list to alter to present only applications, and that, if said list only presents applications, said field displays a representation of a file manager and a selection of said field will cause said list to alter and present only files~~.

9. (currently amended)   The computer readable medium of claim **7**, wherein the user interface is characterised in, that, [[a]] one item in said list is highlighted by a moveable marking, and ~~navigation in said list is performed by moving~~ gliding the ~~blunt~~ object along the touch sensitive area in a direction towards the top of said list or towards the bottom of said list~~, that the movement of the blunt object will cause~~ causes said marking to move in the same direction without scrolling the list~~, and that the speed of movement of said marking is lower than the speed of movement of the blunt object~~.

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10. (currently amended)   The computer readable medium of claim **9**, wherein the user interface is characterised in, that, if the number of applications ~~and/~~or files in said list exceeds the number of ~~application~~ applications [[and]] or files that can be presented on said ~~display~~ touch sensitive area as content, and if the ~~blunt~~ object is ~~moved~~ glided along said touch sensitive area to the top or bottom position of said ~~display~~ touch sensitive area, then ~~lifted~~ raised, replaced on said ~~display~~ touch sensitive area, and again ~~moved~~ glided along said touch sensitive area to the top or bottom of said ~~display~~ touch sensitive area, the content of said ~~display~~ touch sensitive area will be replaced one whole page~~, meaning that if the blunt object is positioned at the bottom of said display area, replaced on said display area, and then again moved to the bottom of said display area, the content of said display area will be replaced by the following applications and/or files in said list, and if the blunt object is positioned at the top of said display area, then lifted, replaced on said display area, and then again moved to the top of said display area, the content of said display area will be replaced by the preceding applications and/or files in the list~~.

11. (currently amended)   The computer readable medium of claim **10**, wherein the user interface is characterised in, that if the ~~blunt~~ object is ~~removed~~ raised from any first position on said ~~display~~ touch sensitive area and then replaced on any second position on said ~~display~~ touch sensitive area, said navigation can be continued from said second position.

12. (currently amended)   The computer readable medium of claim **1**, wherein the user interface is characterised in, that an active application,

function, service or setting is moved on one step by ~~moving~~ gliding the ~~blunt~~ object along the touch sensitive area from ~~the~~ left ~~of said display area~~ to ~~the~~ right ~~of said display area~~, and that the active application, function, service or setting is closed or backed one step by ~~moving~~ gliding the ~~blunt~~ object along the touch sensitive area from ~~the~~ right ~~of said display area~~ to ~~the~~ left ~~of said display area~~.

13. (currently amended)   The computer readable medium of claim **1**, wherein the user interface is characterised in, that said ~~menu area is positioned~~ representations of said plurality of functions are located at the bottom of said touch sensitive area~~, that said representation of said first function is positioned at the left side of said menu area, that said representation of said second function is positioned at the middle of said menu area, and that said representation of said third function is positioned at the right side of said menu area~~.

14. (currently amended)   The computer readable medium of claim **1**, wherein the ~~user interface is characterised in, that said user interface is adapted to a~~ touch sensitive area ~~with a size that~~ is 2-3 inches in diagonal dimension~~, and that said user interface is adapted to be operated by one hand when the mobile handheld computer unit is held in the one hand, wherein said blunt object is a fleshy part of the thumb of the one hand~~.

15. (currently amended)   An enclosure adapted to cover the mobile handheld computer unit according to Claim **1**, characterised in, that said enclosure is provided with an opening for said ~~display~~ touch sensitive area~~, and that a representation of said menu area is printed on top of said enclosure~~.

16. (previously presented)   The enclosure according to Claim **15**, characterised in, that said enclosure is removable and exchangeable.

17. (previously presented)   A computer readable medium, with a computer program product stored therein, characterised in, that said computer program product comprises computer readable code, which, when read by a computer, will make it possible for said computer to present a user interface according to Claim **1**.

18. (original)   A computer readable medium according to Claim **17**, characterised in, that said computer program product is adapted to function as a shell upon an operations system.

19. (withdrawn) An apparatus, comprising:

a computing device configured to provide a plurality of features and/or services to a user, said computing device including a user interface that comprises:

a touchscreen for displaying to the user, individually at differing times, a plurality of display screens corresponding to said plurality of features and/or services and for allowing the user to navigate among said various differing features and/or services and among said plurality of display screens; and

user interface software responsive to interaction of an object with said touchscreen so as to allow the user to navigate among said plurality of features and/or services and among said plurality of display screens, said user interface software configured to:

when said touchscreen is displaying a first display screen of said plurality of display screens, cause said computing

device to display a second display screen of said plurality of display screens in response to a first sweeping movement of the object along said touchscreen in a first direction, said computing device displaying said second display screen after the object has traversed a first predetermined extent of said touchscreen along said first direction; and

when said touchscreen is displaying said second display screen, cause said computing device to display said first display screen in response to a second sweeping movement of the object along said touchscreen in a second direction opposite said first direction, said computing device displaying said first display screen only after the object has traversed a second predetermined extent of said touchscreen along said second direction.

20. (withdrawn) An apparatus according to claim **19**, wherein said touchscreen has a left edge and a right edge when said touchscreen is properly oriented for viewing by the user and said first direction proceeds from a location at or proximate said left edge toward said right edge and said second direction proceeds from a location at or proximate said right edge toward said left edge.

21. (withdrawn) An apparatus according to claim **20**, wherein said touchscreen has a width extending from said left edge to said right edge and each of said first and second extents is substantially equal to said width.

22. (withdrawn) An apparatus according to claim **21**, wherein said touchscreen has a diagonal dimension of two inches to three inches.

23. (withdrawn) An apparatus according to claim **19**, wherein said computing device is sized to be cradled in a hand of an adult human user and so that, when so cradled, all points on said touchscreen are touchable by the thumb of the adult human user, the object being the thumb of the hand.

24. (withdrawn) An apparatus according to claim **19**, wherein each of the first and second sweeping movements does not drag any graphical feature displayed on said touchscreen during that one of the first and second sweeping movements.

25. (withdrawn) An apparatus, comprising:

a computing device configured to provide first and second menu-area functions to a user, said first menu-area function having a first-function display screen and said second menu-area function having a second-function display screen differing from said first-function display screen, said computing device including a user interface that comprises:

a touchscreen simultaneously divided into a menu region and a display region, said menu region containing first and second representations corresponding respectively to said first and second menu-area functions, said display region for displaying to the user at differing times said first-function and second-function display screens; and

user interface software responsive to interaction of an object with said touchscreen so as to allow the user to select at differing times each of said first and second menu-area functions, said user interface software configured to:

display said first-function display screen in response to a first sweeping movement of the object along said touchscreen, the first sweeping movement starting at said first representation in said menu region and proceeding into said display region; and

display said second-function display screen in response to a second sweeping movement of the object along said touchscreen, the second sweeping movement starting at said second representation in said menu region and proceeding into said display region.

26. (withdrawn) An apparatus according to claim 25, wherein:

said touchscreen has a first edge and a second edge spaced from said first edge;

said first and second representations are each located proximate said first edge and spaced from one another along said first edge; and

the first and second sweeping movements each proceed in a direction toward said second edge.

27. (withdrawn) An apparatus according to claim 25, wherein said first-function display screen contains a plurality of icons corresponding respectively to a plurality of applications, said user interface software configured to activate any one of said plurality of applications in response to the user tapping the object on said touchscreen at a corresponding one of said plurality of icons.

28. (withdrawn) An apparatus according to claim **27**, wherein said second-function display screen contains a set of application functions, said set varying as a function of which one of said plurality of applications is active when the user makes the second movement.

29. (withdrawn) An apparatus according to claim **27**, wherein a particular application of said plurality of applications has a plurality of application screen displays, said user interface software configured so that when said particular application is active, the user forwardly steps through said plurality of application screen displays by sweeping the object across said touchscreen in a first direction and reversely steps through said plurality of application screen displays by sweeping the object across said touchscreen in a second direction opposite said first direction.

30. (withdrawn) An apparatus according to claim **25**, wherein said first display screen contains a soft-interface telephony keypad.

31. (withdrawn) An apparatus, comprising:

a computing device configured to run a software application configured to display a plurality of predetermined display screens, said computing device including a user interface that comprises:

a touchscreen for displaying to the user, individually at differing times, said plurality of predetermined display screens and for allowing the user to navigate among said plurality of predetermined display screens; and

user interface software responsive to interaction of an object with said touchscreen so as to allow the user to

navigate among said plurality of predetermined display screens, said user interface software configured to:

activate said software application in response to a particular interaction of the object with said touchscreen;

forwardly step in series through ones of said plurality of predetermined display screens in response to corresponding respective individual instances of a first sweeping movement of the object along said touchscreen in a first direction; and

reversely step in series through ones of said plurality of predetermined display screens in response to corresponding respective individual instances of a second sweeping movement of the object along said touchscreen in a second direction different from said first direction.

32. (withdrawn) An apparatus according to claim **31**, wherein said particular interaction of the object with said touchscreen to activate said software application is a third sweeping movement of the object along said touchscreen in a third direction different from each of said first and second directions.

33. (withdrawn) An apparatus according to claim **32**, wherein said first and second directions are opposite one another and said third direction is perpendicular to each of said first and second directions.

34. (withdrawn) An apparatus, comprising:

a computing device configured to run software for providing to a user a plurality of services and/or functions, said computing device including:

a touchscreen for display to the user a graphical user interface and for allowing the user to navigate among said plurality of services and/or functions; and

user interface software responsive to interaction of an object with said touchscreen so as to allow the user to navigate among said plurality of services and/or functions, said user interface software configured to:

present, in response to a sweeping movement of the object across said touchscreen, a display screen containing a plurality of display icons corresponding respectively to ones of said plurality of services and/or functions, the sweeping movement being spatially uncorrelated with information displayed on said touchscreen; and

when said touchscreen is displaying said plurality of display icons, launch one of said plurality of services and/or functions in response to the user tapping the object on said touchscreen at a location where said touchscreen displays the corresponding one of said plurality of display icons.

35. (withdrawn) An apparatus according to claim **34**, wherein said computing device contains a software application and said user interface is configured to present said plurality of display icons only if said software application is active during the sweeping movement of the object.

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36. (withdrawn) An apparatus according to claim **35**, wherein when said software application is active during the sweeping of the object, said display icons correspond to services and/or functions specific to said software application.

37. (withdrawn) An apparatus, comprising:

a computing device containing software for providing to a user a plurality of services and/or functions, said computing device including:

a touchscreen for displaying to the user, individually at differing times, ones of various display screens associated with said plurality of services and/or functions and for allowing the user to navigate among said plurality of display screens so as to provide the user with access to said plurality of services and/or functions and for allowing the user to control functioning of ones of said plurality of services and/or functions; and

user interface software responsive to a set of movements of an object with respect to said touchscreen so as to allow the user to navigate among said plurality of display screens and to control functioning of ones of said plurality of services and/or functions, said set of movements including a plurality of sweeping movements having differing directionalities along said touchscreen, wherein said plurality of sweeping movements being spatially uncorrelated with information displayed on said touchscreen, said user interface software being configured to distinguish the plurality of sweeping movements from one another as a function of the differing directionalities so as to provide differing responses as a function of said differing directionalities.

38. (withdrawn) An apparatus according to claim **37**, wherein two sweeping movements of the plurality of sweeping movements have opposing directionality and said user interface software is configured to provide two opposing responses corresponding respectively to said two sweeping movements.

39. (withdrawn) An apparatus according to claim **38**, wherein one of the two opposing responses is moving forward in a series of display screens and the other of the two opposing responses is moving backward in the series of display screens.

40. (withdrawn) An apparatus according to claim **37**, wherein each of the plurality of sweeping movements does not drag any graphical feature displayed on said touchscreen during that one of the plurality of sweeping movements.

41. (withdrawn) An apparatus, comprising:

a computing device configured to provide a plurality of features, settings, applications and/or services to a user, said computing device including a user interface that comprises:

a touchscreen for displaying to the user a list of items corresponding to at least one of a plurality of features, settings, applications and/or services and for allowing the user to select any one of said items using said list; and

user interface software responsive to interaction of an object with said touchscreen so as to allow the user to navigate among said list and to select any one of said items, said user interface software configured to move a highlight marking, having a

displayed location on said touchscreen, in a desired direction within said list in response to the user:

(a) contacting said touchscreen with the object at a first location that is a function of the desired direction, not said displayed location of said highlight marking;

(b) while keeping the object in contact with said touchscreen, moving the object along said touchscreen in the desired direction to a second location; and

(c) immediately following said moving of the object along said touchscreen to said second location, lifting the object from said touchscreen so as to establish a new location of said highlight marking.

42. (withdrawn) An apparatus according to claim **41**, wherein said user interface software is configured to, after the user has marked a desired one of said items by performing steps (a) through (c) so as to highlight said desired one with the highlight marking, select said desired one in response to the user tapping the object on said touchscreen without regard to said display location of the highlight marking.

43. (withdrawn) An apparatus, comprising:

a computing device configured to provide a plurality of features, settings, applications and/or services to a user, said computing device including a user interface that comprises:

a touchscreen for displaying to the user a list of items corresponding to at least one of said plurality of features, settings, applications and/or services and for allowing the user to select any one of said items using said list; and

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user interface software responsive to interaction of an object with said touchscreen so as to allow the user to scroll said list and to select any one of said plurality items, said user interface software configured to scroll said list in a desired direction in response to the user:

(a) contacting said touchscreen with the object at a first location that is a function of the desired direction of said scroll and that is not based on any soft scroll control displayed on said touchscreen; and

(b) while keeping the object in contact with said touchscreen, moving the object along said touchscreen in the desired direction to a second location, wherein said moving of the object causes said list to scroll in the desired direction.

44. (withdrawn) An apparatus according to claim **43**, wherein said user interface software is configured to activate a selected one of said items in response to a user tapping the object on said touchscreen following the user lifting the object from the touchscreen after the user performs step (b).

45. (withdrawn) An apparatus according to claim **43**, wherein said items are files.

46. (withdrawn) An apparatus according to claim **43**, wherein said items are email messages.

47. (withdrawn) An apparatus according to claim **43**, wherein each item is contact information for a corresponding contact.

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REMARKS

Applicant expresses appreciation to the Examiner for the courtesy of an interview granted to applicant's representative Marc A. Berger (Reg. No. 44,029). The interview was held by telephone on Thursday, September 4, 2008. The substance of the interview is contained in the Interview Summary, Form PTOL-413, prepared and entered by the Examiner. Claims **1** - **15** have been amended in accordance with the conclusions of the interview.

Applicant has carefully studied the outstanding Office Action. The present amendment is intended to place the application in condition for allowance and is believed to overcome all of the objections and rejections made by the Examiner. Favorable reconsideration and allowance of the application are respectfully requested.

Applicant has withdrawn claims **19** – **47**, and amended claims **1** – **15** to properly claim the present invention. No new matter has been added. Claims **1** – **18** are presented for examination.

In paragraphs 1 - 8 of the Office Action, the Examiner has rejected claims **1, 4** – **7, 12, 15** and **17** under 35 U.S.C. §103(a) as being unpatentable over Carlson, F., Visual Quickstart Guide: Palm Organizers ("Carlson") in view of Milic-Frayling et al., US Publication No. 2004/0100510 ("Milic-Frayling"), and further in view of Conrad et al., US Patent No. 5,956,030 ("Conrad").

In paragraph 9 of the Office Action, the Examiner has rejected claims **2** and **3** under 35 U.S.C. §103(a) as being unpatentable over Carlson in view of Milic-Frayling, in view of Conrad, and further in view of Kopitzke et al., US Patent No. 6,988,246 ("Kopitzke").

In paragraph 10 – 13 of the Office Action, the Examiner has rejected claims **8 – 11** under 35 U.S.C. §103(a) as being unpatentable over Carlson in view of Milic-Frayling, in view of Conrad, and further in view of Wynn et al., US Patent No. 6,734,883 ("Wynn").

In paragraph 14 of the Office Action, the Examiner has rejected claim **13** under 35 U.S.C. §103(a) as being unpatentable over Carlson, in view of Milic-Frayling, and further in view of Conrad.

In paragraphs 15 and 16 of the Office Action, the Examiner has rejected claims **14** and **16** under 35 U.S.C. §103(a) as being unpatentable over Carlson, in view of Milic-Frayling, in view of Conrad, and further in view of Strietelmeier, Palm m100, The Gadgeteer ("Strietelmeier").

In paragraphs 17 and 18 of the Office Action, the Examiner has rejected claim **18** under 35 U.S.C. §103(a) as being unpatentable over Carlson, in view of Milic-Frayling, in view of Conrad, and further in view of Chew et al., US Patent No. 6,727,917 ("Chew").

Distinctions between Claimed Invention and Carlson, F., Visual Quickstart Guide: Palm Organizers, US Publication No. 2004/0100510 of Milic-Frayling et al., US Patent No. 5,956,030 to Conrad et al., US Patent No. 6,988,246 to Kopitzke et al., US Patent No. 6,734,883 to Wynn et al., Strietelmeier, Palm m100, The Gadgeteer, and US Patent No. 6,727,917 to Chew et al.

Aspects of the subject invention concern a touch-based user interface with functionalities for running interactive applications using touch-based icons, for inputting text using a touch-based keypad, and for managing files using a touch-based file listing. User inputs include finger taps and thumb movements. One such movement is a

thumb touch-and-glide, where the thumb touches a touch screen at a location where an icon for a function is displayed, and glides along the touch screen away from the location, as illustrated in FIG. 2 of the subject application.

Carlson describes how to use the Palm Organizer touch-based user interface. Through a series of pictures, Carlson shows how to run applications, view documents, access menus, and use an onscreen keyboard.

Milic-Frayling describes an interactive user interface for presenting search results on small display screens of handheld devices. Search results are annotated to highlight search hits, and text is wrapped so as to avoid the need for horizontal scrolling.

Conrad describes a window management system for keeping open windows offscreen in a drawer area (Conrad/ elements D1 – D4 of FIG. 1), and available for popping them back onscreen by clicking on a title bar or drawer handle of the offscreen window (Conrad/ FIGS. 2 – 4). Conrad also describes "spring loaded" enclosures for opening temporary windows for enclosure identifiers, during a drag operation (Conrad/ FIGS. 8A – 8D and 9A – 9E).

Kopitzke describes a touch-sensitive user interface for use in an aircraft with multiple cabin systems. A main menu (Kopitzke/ FIG. 4) provides an overview of cabin status, and information and data regarding the cabin systems. The main menu includes touch input keys for bringing up menus for each of the individual aircraft cabin systems, for monitoring and controlling their operation. Cabin systems include inter alia an audio system (Kopitzke/ FIG. 5), a video system, a lighting system (Kopitzke/ FIG. 6), a climate control system, a doors & hatches

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system (Kopitzke/ FIG. 7), a water supply system (Kopitzke/ FIG. 8), an electric power supply system, and a data communication system.

Wynn describes a user interface for spinning through a list of items. The user interface displays a preview list of items and a postview list of items on opposite sides of a currently selected item in the list (Wynn/ FIG. 7).

Strietelmeier describes the mechanical casing, hardware components and software applications of the Palm m100 Organizer, in comparison with the Palm IIIc, the Palm V and the Handspring Visor.

Chew describes a user interface for running and interacting with multiple applications on small handheld device display screens. Chen describes a user interface display having a top portion with a navigation bar (Chew/ element 302 of FIG. 3) for navigating between different applications, a middle portion for graphically displaying outputs of a currently active application, and a bottom portion with an application menu bar (Chew/ element 304 of FIG. 3) for entering inputs to the currently active application.

The touch-based user interface of the subject claimed invention is generally operated by the thumb. The touch-based user interface of Carlson is generally operated by a stylus. Although, the user interface of Carlson may also be operated by the thumb, the natures of the two user interfaces are distinct. The subject claimed invention teaches "rubbing", "touch-and-glide" movements to operate a user interface, whereby the thumb touches a touch-sensitive screen and rubs, or glides, along the screen without lifting the thumb. In distinction, tap movements and one-stroke pen drags are used to operate the touch-based user interface of Carlson. In terms of motor skill, the touch-and-glide movements of the subject claimed invention are akin to pressing

with the thumb on a mechanical slider button, such as the slider button with HI/LO/OFF settings on a hair-dryer handle, and sliding the button up or down while it is pressed.

The touch-and-glide movements of the subject claimed invention are illustrated in FIGS. 2, 7 and 10 by a left-arrow and a thumb touching a touch-sensitive screen.

The touch-and-glide movements of the subject claimed invention are used to activate functions (original specification/ Abstract; page 2, lines 25 – 28; page 5, lines 24 – 27; FIG. 2; original claim **1**), and to scroll a selector forward and backward within a list to select a desired item in the list, and to page up and page down within a list (original specification/ page 3, lines 28 – page 4, line 2; page 7, lines 7 – 10; page 7, line 27 – page 9, line 14; FIGS. 7 and 10; original claims **7, 9** and **10**).

The touch-and-glide movements of the subject claimed invention activate a function located at the touch point. The one-stroke pen drag movement of Carlson activates a pre-designated program, irrespective of where the pen drag begins; namely, the onscreen keyboard or a custom pre-designated program that may be substituted therefor.

Other conventional finger-based touch screens, such as the large touch screens used for self-serve check-in at airport terminals, use touch-sensitive input keys. In distinction, the touch-and-glide inputs of the subject claimed invention are of particular advantage for small handheld devices, where screen space is minimal.

Response to Examiner's Arguments

In rejecting independent claim **1**, the Examiner has cited the "one-stroke pen drag" (Carlson/ page 30; FIG. 2.22) as teaching that "*any one of said three functions can be activated when said touch sensitive area detects a movement of an object with its starting point within the representation of said function on said menu area and with a direction from said menu area to said display area*". In rejecting dependent claim **9**, the Examiner has cited dragging a vertical scroll bar (Carlson/ page 27). In rejecting dependent claim **12**, the Examiner has cited dragging a horizontal scroll bar (Carlson/ page 246; FIG. 14.2).

Applicant respectfully submits that the one-stroke drag of Carlson is very distinct from the location-based touch-and-glide movement of the subject invention (original specification/ FIG. 2). The following table summarizes some of the relevant distinctions.

TABLE I: Partial list of distinctions between one-stroke drag of Carlson and location-based touch-and-glide movement of the claimed invention	
One-stroke drag	**Location-based touch-and-glide**
Default function is the onscreen keyboard; may be customized to activate a different pre-designated function.	The function displayed at the touch point is activated.
At any given time, may be used for activating only one pre-designated function.	At any given time, may be used for activating whichever function is touched, from among a plurality of functions.
The starting location has no bearing on the function that is activated.	The starting location determines which of the plurality of functions is activated.
Performed by a stylus.	Performed by the thumb.
Requires the user interface to recognize a vertical drag.	Requires the user interface to recognize a glide and identify the function displayed at the starting location of the glide.
Requires one hand to hold the device and another hand to perform the stylus movement.	The same hand may be used to hold the device and perform the thumb movement.
Not used for scrolling through a list.	Used for scrolling through a list.

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Applicant further respectfully submits that the scroll slider drag of Carlson is very distinct from the location-based touch-and-glide movement of the subject invention. The following table summarizes some of the relevant distinctions.

TABLE II: Partial list of distinctions between scroll slider drag of Carlson and location-based touch-and-glide movement of the claimed invention	
Scroll slider drag	**Location-based touch-and-glide**
Requires the user interface to recognize a horizontal drag or a vertical drag.	Requires the user interface to recognize a glide in any of a plurality of directions.
Performed by a stylus.	Performed by the thumb.
Requires one hand to hold the device and another hand to perform the stylus movement.	The same hand may be used to hold the device and perform the thumb movement.
Not used for scrolling through a list.	Used for scrolling through a list.

In order to clarify these distinctions, applicant has amended claim **1** to include the limitation of each of the plurality of functions being mapped to a corresponding location in the touch sensitive area, and being activated by an object touching the corresponding location and then gliding along the touch sensitive area away from the location.

Applicant has carefully reviewed all of the cited prior art. None of the cited prior art teaches the location-based touch-and-glide thumb movement of the subject claimed invention. Specifically, Milic-Frayling and Conrad do not use touch screens. Kopitzke uses touch input keys. Wynn mentions touch sensitive displays with stylus pens. Strietelmeier mentions writing with a stylus. Chew uses a stylus to tap on a touch screen.

The rejections of the claims **1 – 18** in paragraphs 1 - 18 of the Office Action will now be dealt with specifically.

As to amended independent claim **1** for a computer readable medium, applicant respectfully submits that the limitation in claim **1** of

"*each function of said plurality of functions being mapped to a corresponding location in the touch sensitive area at which the representation of the function is displayed, and being activated by an object touching the corresponding location and then gliding along the touch sensitive area away from the location*"

is neither shown nor suggested in Carlson, Milic-Frayling, Conrad, Kopitzke, Wynn, Strietelmeier or Chew.

Because claims **2 – 18** depend from claim **1** and include additional features, applicant respectfully submits that claims **2 – 18** are not anticipated or rendered obvious by Carlson, Milic-Frayling, Conrad, Kopitzke, Wynn, Strietelmeier, Chew, or a combination of Carlson, Milic-Frayling, Conrad, Kopitzke, Wynn, Strietelmeier and Chew.

Accordingly claims **1 – 18** are deemed to be allowable.

Support for Amended Claims in Original Specification

Independent claim **1** has been amended to include the limitation of each of a plurality of functions being mapped to a corresponding location in a touch sensitive area, and being activated by an object touching the corresponding location and then gliding along the touch sensitive area away from the location. This limitation is supported in the original specification at least at page 2, lines 25 – 28, at page 5, lines 19 – 27, at FIGS. 1, 2, 7 and 10, and in the Abstract.

For the foregoing reasons, applicant respectfully submits that the applicable objections and rejections have been overcome and that the claims are in condition for allowance.

Respectfully submitted,

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